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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : RATHERT
Serial No : 10/051,577
Filed : January 16, 2002
For : THREE-SIDE...
Art Unit : 3724
Examiner : Kenneth E. Peterson
Dated : September 23, 2004

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

I. REAL PARTY IN INTEREST

This application is not assigned.

II. RELATED APPEALS AND INTERFERENCES

Appellant, Appellant's legal representative, or assignee has no knowledge of any appeals or interferences which will directly effect or be directly effected by or have a bearing on the Boards decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1 - 20 stand rejected and are on appeal.

IV. STATUS OF AMENDMENT AFTER FINAL REJECTION

An Amendment After Final Rejection was not submitted at this time.

V. SUMMARY OF THE INVENTION

The present invention relates to a trimmer, especially a trimmer for a stack of paper which will be bound into a book. The present invention trims three sides of the stack of paper. These sides are usually called the head, the foot and the front. The present invention provides three different and separate cutting units, in particular a cutting unit 1 for the head, a cutting unit 2 for the foot and a cutting unit 6 for the front, page 5 lines 10 - 13. Each of the cutting units is movably arranged on a support frame 4. The head and foot cutting units are movable on the support frame 4 to adjust the height of the final cut stack of paper and the front cutting unit is adjustably movable on the support frame 4 to adjust the width of the stack after it is cut.

Each cutting unit has a knife 10 which cuts against cutting strips 14, page 5 lines 17 and 18. The knives 10 and cutting strips 14 are moved towards and away from each other by coupling rods 11 and cranks 12. The knives 10 and the cutting strips 14, and their associate hardware, are all connected to each other through the unit frame 8. Each cutting unit has its own frame 8. The cutting units are designed as devices that are closed in on themselves so that all pressing and cutting forces remain within the compact units. As one can see from present Fig. 3, the cutting forces generated by knife 10 against a cutting strip 14 all remain within the unit. It is well known in the art that cutting a stack of paper between a knife and a cutting strip requires that force be applied to the knife in the direction towards the cutting strip. It is also

known in the general knowledge of physics that each force generates an equal and opposite force. By the cutting strip 14 and the knife 10 being connected to each other by the unit frame 8, the opposite force generated during the cutting is absorbed, or is contained by the unit frame 8, page 4 lines 10 and 11. Since the unit frame is part of the cutting units, the unit frame 8 also moves with the cutting units.

When stacks of paper are cut, the individual sheets are pressed against each other, usually with a very strong force. Applicant has found that when stacks of paper are formed, there is often a significant amount of air left between the sheets of paper. Even if the sheets of paper are initially compressed, if the sheets are subsequently left uncompressed and transported, air can again enter between the sheets. The compressing of the sheets during cutting can cause the individual sheets to shift if the air is not removed. This shifting of the sheets because of the air causes an uneven, and undesirable cut.

The present invention therefore provides pressing strips 15 and 19 in each cutting unit. The pressing elements or strips 15 and 19 move towards each other to compress the stack of paper between themselves. The forces of the pressing elements 15 and 19 pressing against each other, also have a corresponding opposite and equal force. This force is absorbed by the frame 8 so that the pressing forces, and their opposite forces remain within the cutting unit, page 4, lines 10 and 11.

The present invention is designed to cut different size stacks of paper, and that is why the cutting heads are movably arranged on the support frame 4. Applicant has found that if the stack of paper is not pressed evenly, pressing marks can be formed in the stack of paper which

is undesirable, page 3 lines 4 - 6. In the present invention, the pressing strips 15 and 19 therefore are extended by telescoping adapters 17 and 21, page 6 lines 3 - 10. The pressing elements 15 and 19 can therefore expand or contract, depending on the size of the stack to be cut, in order to fully and evenly press the stack. The telescoping adapters can either be made in a shutter-like design or in a design similar to an accordion.

These pressing strips 15 and 19 are also arranged slightly obliquely so that they gradually press out the air from one side to the other, and do not trap air between the sheets. A conveyor preferably feeds the stack of sheets to the support frame, and into position for pressing and cutting by the individual cutting units.

VI. CONCISE STATEMENT OF ALL ISSUES PRESENTED FOR REVIEW

(1) Whether claims 1 - 3, 8, 14, and 19 - 20 are unpatentable under 35 USC § 112 first paragraph.

(2) Whether claims 2, 14 and 20 are unpatentable under 35 USC § 112 second paragraph.

(3) Whether claims 1 - 3, 8 and 20 are unpatentable under 35 USC § 103 over Sarring.

VII. GROUPING OF CLAIMS

Appellant asserts that each of claims 1, 2, 3, 8, 14, 19 and 20 rejected under 35 USC § 112 first paragraph are separately patentable, and do not stand or fall together.

Applicant asserts that each of claims 2, 14 and 20 rejected under 35 USC § 112 second

paragraph are separately patentable and do not stand or fall together.

Applicant asserts that claims 1, 2 and 20 are separately patentable and do not stand or fall together. Claims 1, 3 and 8 are considered to stand and fall together.

VIII. ARGUMENT

ISSUE 1:

(1) Whether claims 1 - 3, 8, 14, and 19 - 20 are unpatentable under 35 USC § 112 first paragraph.

The rejection states that the specification does not explain how the telescoping adapters work, how are they “shutter like” or how are they “accordion like”.

From the specification, and the name “telescoping” it is quite clear that the pressing strips expand and contract to cover different size stacks. It is Applicant’s belief that the person of ordinary skill in the art would also know that a “shutter” also expands and contracts to form different sizes. Shutters are well known, and the most common shutter includes a plurality of plates that slide upon each other. The plates can take up a minimum size when they are all stacked on top of each other, or a maximum size when the plates are spread out. It is Applicant’s position by stating that the telescoping adapters are “shutter like” clearly indicates to a person of ordinary skill in the art that the telescoping adapters can be formed by shutter such as one having a plurality of plates which slide upon each other to vary the size of the telescoping adapter. It is Applicant’s position therefore that the application is enabling to one of ordinary skill in the art to make or use a telescoping adapter which is shutter like.

The specification also indicates that the telescoping adapters can be “accordion like”. As described above, the application clearly indicates that the telescoping adapters change their size to match the size of the stack or book. A person of ordinary skill in the art also knows that accordion like devices can change their size. A person of ordinary skill in the art would know how an accordion like device works, in particular by having a plurality of plates which are hinged to each other usually at opposite ends of the plates, and the plates are either folded up or unfolded to change the size of the accordion like device. It is Applicant’s position that by stating that the telescoping adapters can be “accordion like” the person of ordinary skill in the art would know that the telescoping adapter changes its size by having plates which are hinged to each other and the plates are then folded or unfolded.

Applicant has reviewed the claims, and notes that only claims 6, 7, 17 and 18 set forth the “shutter like” or “accordion like” features. However these claims have been withdrawn from consideration by the Restriction Requirement of April 18, 2003. The remaining claims should therefore not be effected by this rejection.

The claims are also rejected under the statement that the specification does not explain how the conveyor moves to and fro, nor how or why the conveyor moves up and down. Applicant has reviewed the claims, and finds no statement in the claims that the conveyor moves up and down. Therefore it is Applicant’s position that the claims should not be rejected for failing to explain how or why the conveyor moves up and down.

The specification indicates that the conveyor moves to and fro. In particular a stack of paper is moved to the cutting units, and the cut stack of paper is then moved away from the

cutting units. It is Applicant's position that conveyors are well known in the art, especially for moving products from one location to another. A person of ordinary skill in the art would know to use a well known conveyor which moves an object to a position. This would be similar to the conveyor in the present invention moving "to". The person of ordinary skill in the art should also be knowledgeable enough to operate the conveyor to have the object move away from a position or "fro". It is Applicant's position that the specification describing a conveyor moving to and fro is therefore sufficient to a person of ordinary skill in the art to move a stack of paper to a cutting unit and away from a cutting unit.

In Fig. 2 of the present application, the conveyor is represented by reference 18 and 18A. In particular the top portion of conveyor 18 pushes the stack of paper into the cutting units. In the embodiment of Fig. 2, the conveyor 18 has an L-shape with the bottom of the L being driven by a drive unit mounted vertically. The drive unit preferably has the motor on the bottom, and a drive wheel on the top.

Claim 11 appears to be the only claim that sets forth the conveyor moving to and fro. Claim 11 has also been withdrawn from consideration in the Restriction Requirement. The remaining claims in this application should therefore not be effected if the specification and drawings lack sufficient detail for this feature.

A part of the conveyor can move up and down to adjust for the height of the stack, as shown in Fig. 2. In particular, Fig. 2 shows the height of the part of the conveyor to be H1, which matches the height of the stack. If the stack height changes, the height of the conveyor also changes accordingly. While there are many ways to change the height of the conveyor,

Fig. 2 shows two shafts, where the upper shaft is smaller than the lower shaft, and can slide in and out of the lower shaft to adjust the height.

The rejection also states that one of ordinary skill would not understand the cutting units being “designed as elements that are closed in themselves”. The specification states on page 4 lines 10 and 11 that the cutting units are designed as elements that are closed in themselves, and that all pressing and cutting forces remain within the compact units. The drawings also show that each cutting unit has a frame 8 which connects the cutting strips to the knives 10. It is Applicant’s position that a person of ordinary skill in the art would realize that because of the frame 8 in each of the cutting units, connecting the knives and the cutting strips, all forces generated by the knife pressing against the cutting strip remains in the cutting unit and the cutting unit is therefore a closed system with regard to the cutting forces, and their opposite forces. The statement that the cutting units are closed in themselves indicates that the forces from cutting and pressing remains inside the cutting unit and the cutting unit is therefore closed. It is Applicant’s position therefore that the specification and drawings provide sufficient information to support that the cutting units are closed.

Claims 1, 19 and 20 set forth “closed compact units”. None of the present claims appear to set forth cutting units that are “closed in themselves”. Therefore the rejection of the specification failing to fully describe cutting units designed as elements that are closed in themselves, does not directly apply to claims 1, 19 and 20.

For all of the above reasons, the Board is respectfully request to indicate that claims 1, 2, 3, 8, 14, 19 and 20 comply with 35 USC § 112, first paragraph.

ISSUE 2:

(2) Whether claims 2, 14 and 20 are unpatentable under 35 USC § 112 second paragraph.

The rejection states that claims 2 and 20 recite that the cutting units absorb substantially all forces. The rejection then further states that it is not clear what weight should be given to this phrase.

Applicant notes that claim 2 sets forth that the cutting units have a unit frame that substantially absorbs all forces “from the squeezing cut”. Applicant respectfully requests that sufficient weight be given to this phrase to cover all three sided trimmers where the cutting unit has a unit frame that substantially absorbs all forces from a squeezing cut. A squeezing cut is clear from the present application as a cut where a knife cuts against a cutting strip. It is Applicant’s position that physics and mechanical engineering have advanced sufficiently at the present time that the forces generated by a squeezing cut can be determined, namely the cutting force itself, and the resulting equal but opposite force. Therefore claim 2 covers all structure which absorbs these forces from the squeezing cut, especially as shown in the preferred embodiment.

Claim 2 has also been rejected as appearing to mention that the weight forces and dynamic forces are not absorbed, and the rejection then begs the question of “what forces are absorbed”. As Applicant has described previously, claim 2 sets forth that the unit frame absorbs substantially all flow of forces from “the squeezing cut”. Therefore it is the forces from the squeezing cut which are absorbed, and not the weight and dynamic forces of the cutting units.

Applicant notes that the dynamic forces of the cutting units are those forces of the cutting units moving relative to the support frame, and not the forces from the squeezing cuts, such as the force of the knife moving relative to the cutting strip.

Claim 20 sets forth that the unit frame substantially absorbs all forces between the knife and the cutting strip during “the oblique swing cut”. It is Applicant’s position that the forces between the knife and the cutting strip would be known to a person of ordinary skill in the art, in particular the actual force of the knife pressing against the cutting strip, and the resulting opposite force. Applicant respectfully requests that sufficient weight be given to the unit frame in claim 20 to cover all unit frames that absorb these force.

For all of the above reasons the Board is respectfully requested to indicate that claims 2 and 20 are in conformance with 35 USC § 112, second paragraph.

ISSUE 3:

(3) Whether claims 1 - 3, 8 and 20 are unpatentable under 35 USC § 103 over Sarring.

The rejection states that Sarring uses a first knife that shears in cooperation with a stationary lower knife rather than making a “squeezing cut”. The Examiner then takes official notice that it is quite common to employ squeeze cutters when cutting through large stacks of paper and the rejection uses Mohr ‘916 to show such a device. The rejection then states that it would have been obvious to one of ordinary skill in the art to have adapted Sarring’s knife to make a squeeze cut as taught by Mohr since shear cutters and squeeze cutters are art recognized equivalents.

Applicant notes that if it would have been obvious to have adapted Sarring's knife to make a squeeze cut since shear cutters and squeeze cutters are art recognized equivalents, it would therefore also be clear to a person of ordinary skill in the art to use a known conveyor or, shutter or accordion like telescoping adapter in the telescoping adapter of the present application. The person of ordinary skill in the art would not even have to recognize that a prior art conveyor and the conveyor of the present invention are recognized equivalents, since the present specification clearly indicates a conveyor by name, likewise with accordion like or shutter like telescoping adapters. Shutter-like or accordion-like expanding and contracting devices are known. Therefore the person of ordinary skill in the art who can substitute a squeezing cut instead of a shear cut should most certainly be able to make the jump to include known conveyors, shutters and accordion-like devices, for the conveyors, shutters and accordion like devices described in the present specification by name.

Applicant respectfully requests uniform consideration for the ability of a person of ordinary skill in the art when applied to the rejection of the present application.

Claim 20 sets forth that each of the cutting units includes a cutting strip and a knife, and a unit frame connecting the cutting strip and the knife. The unit frame is set forth as substantially absorbing all of the forces between the knife and the cutting strip during an oblique swing cut. Claim 20 further sets forth that each cutting unit is movably mounted as a unit on the common support frame. Applicant has reviewed Sarring, and finds no teaching nor suggestion of a frame in any cutting unit which absorbs all of the forces between a knife and a cutting strip during a swing cut. This is especially true where any such cutting unit is movably

mounted as a unit on a common support frame.

Instead it appears that any cutting units in Sarring are all interrelated to each other through a common structure which absorbs the forces from all of the cutting units. In particular there appears to be no single frame in Sarring for each cutting unit which absorbs all the forces between a respective knife and cutting strip. Instead it appears in Sarring that the overall common structure in Sarring absorbs all of the forces of any and all cutting performed by the cutting units.

Applicant has found that a structure such as Sarring is very disadvantageous because it makes for an apparatus which is much more complicated, and where the overall structure needs to be very strong. Furthermore, it is more difficult to adjust a cutting unit for different size books or pamphlets since the individual structures in Sarring are more interrelated.

Furthermore, Applicant finds no teaching nor suggestion in Sarring of any structure connecting a knife and a cutting strip which is movable as a cutting unit on a support frame.

Claim 1 sets forth a block head pressing element, a block foot pressing element and a block front pressing element. All of these pressing elements are set forth as being a closed compact unit. As described in the specification, the cutting units, which have the pressing elements attached to them, are designed to be closed in themselves, where all pressing and cutting forces remain within the compact units. Applicant has reviewed Sarring, and finds no teaching nor suggestion of head, foot and front pressing elements all being formed as a closed compact unit. Instead it appears that any pressing elements in Sarring are all interrelated to each other through a common structure which absorbs all forces from any and all pressing

elements. Since Sarring does not teach nor suggest pressing elements for a head, foot and front being each formed as a closed compact unit, claim 1 sets forth features which are not taught or suggested by Sarring. Claim 1 therefore also defines over Sarring.

Claim 2 sets forth that the cutting units have the unit frame that substantially absorbs all four forces from the squeezing cut. Applicant finds no teaching nor suggestion in Sarring of such a unit frame. Instead Sarring appears to lead a person away from such a unit frame since there is the overall structure in Sarring which would appear to absorb all flow of forces from a squeezing cut.


Claim 2 further sets forth that the support frame is loaded only by the weights and dynamic forces of the cutting units. Applicant finds that any support frame in Sarring, which would have features similar to the support frame of the present invention, is not loaded only by weights and dynamic forces of cutting units. Therefore claim 2 further defines over Sarring.

For all of the above reasons, the Board is respectfully requested to indicate that claims 1 - 3, 8 and 20 are allowable in view of Sarring.

CONCLUSION

It is Applicant's position that all of the rejections are untenable and that this application is in conformance with the U.S. patent regulations. Applicant respectfully solicits for allowance of the claims in this application.

Respectfully submitted
For Applicant,

By: 
Theobald Dengler
Reg. No. 34,575

TD:tf
70418.13

Enclosed: Appendix
 Duplicate Copies of Appeal Brief
 Credit Card Payment Form


DATED: September 23, 2004
 SCARBOROUGH STATION
 SCARBOROUGH, NEW YORK 10510-0827
 (914) 941-5600

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McGLEW AND TUTTLE, P.C.

BY:  DATE: September 23, 2004

APPENDIX

1. (Previously Presented) A three-side trimmer comprising: a common support frame, first and second cutting stations each with a cutting unit with knives for an oblique swing squeezing cut against cutting strips; a block head pressing element on said common support frame, said block head pressing element being a closed compact unit with a block head pressing drive; a block foot pressing element on said common support frame, said block foot pressing element being a closed compact unit with a block foot pressing drive separate from said block head pressing drive; a block front pressing element on said common support frame, said block front pressing element being a closed compact unit with a block front pressing drive separate from said block head pressing drive and separate from said block foot pressing drive; and a conveyor of the material being cut that is common to the block head pressing element and the block foot pressing element and the block front pressing element.

2. (Previously Presented) A three-side trimmer in accordance with claim 1, wherein the cutting units have a unit frame that substantially absorbs all flow of forces from the squeezing cut and the support frame is loaded only by the weights and dynamic forces of said cutting units, said support frame being a lightweight frame.

3. (Previously Presented) A three-side trimmer in accordance with claim 1, wherein one of said cutting stations is a front cutting station and includes a full-area cutting table corresponding to a largest format.

4. (Withdrawn) A three-side trimmer in accordance with claim 1, further comprising adapters telescoping corresponding to a height of the format, one of said cutting stations being a head-and-foot station, said adapters being located in the head-and-foot station between the cutting strips and the pressing strips for holding down the block during cutting.

5. (Withdrawn) A three-side trimmer in accordance with claim 4, wherein the adapters between the pressing elements slightly drop toward the back of the block and conform elastically in order to remove the air present in the block from the back.

6. (Withdrawn) A three-side trimmer in accordance with claim 4, wherein the adapters between the pressing strips and the cutting strips have a shutter-like design.

7. (Withdrawn) A three-side trimmer in accordance with claim 4, wherein the adapters between the pressing elements and the cutting strips have an accordion design.

8. (Original) A three-side trimmer in accordance with claim 1, wherein all knives are guided in flat guides.

9. (Withdrawn) A three-side trimmer in accordance with claim 1, wherein one of said cutting stations is a front said cutting station and is displaceable for the purpose of changing the knife.

10. (Withdrawn) A three-side trimmer in accordance with claim 1, wherein the conveyor maintains the back of the block always in the same position in the head-and-foot station during cutting and the pressing elements have recesses filled with an elastic material in the head-and-foot station to prevent creases from being formed on the backs of brochures.

11. (Withdrawn) A three-side trimmer in accordance with claim 1, wherein the conveyor comprises two conveyor elements coupled with one another, movable to and fro and being retractable and extendable.

12. (Withdrawn) A three-side trimmer in accordance with claim 11, wherein the conveyor elements comprise tongs.

13. (Withdrawn) A three-side trimmer in accordance with claim 1, wherein the trimmings of the head-and-foot station and the front cut are disposed of separately.

14. (Previously Presented) A three-side trimmer in accordance with claim 2, wherein one of said cutting stations is a front cutting station and includes a full-area cutting table corresponding to a largest format and said block front pressing element has a rigid front part near the knife and with a slightly obliquely positioned elastic rear part.

15. (Withdrawn) A three-side trimmer in accordance with claim 14, further comprising adapters telescoping corresponding to a height of the format, one of said cutting stations being a head-and-foot station, said adapters being located in the head-and-foot station between the cutting strips and the pressing strips for holding down the block during cutting.

16. (Withdrawn) A three-side trimmer in accordance with claim 15, wherein the adapters between the pressing elements slightly drop toward the back of the block and conform elastically in order to remove the air present in the block from the back.

17. (Withdrawn) A three-side trimmer in accordance with claim 15, wherein the adapters between the pressing strips and the cutting strips have a shutter-like design.

18. (Withdrawn) A three-side trimmer in accordance with claim 15, wherein the adapters between the pressing elements and the cutting strips have an accordion design.

19. (Previously Presented) A three-side trimmer comprising: a common support frame, first and second cutting stations each with a cutting unit with knives for an oblique swing cut against cutting strips; a block head pressing element on said common support frame, said block

5 head pressing element being a closed compact unit with a block head pressing drive; a block
foot pressing element on said common support frame, said block foot pressing element being
a closed compact unit with a block foot pressing drive separate from said block head pressing
drive; a block front pressing element on said common support frame, said block front pressing
10 element being a closed compact unit with a block front pressing drive separate from said block
head pressing drive and separate from said block foot pressing drive, said block front pressing
element having a rigid front part near the knife and with a slightly obliquely positioned elastic
rear part; and a conveyor of the material being cut that is common to the block head pressing
element and the block foot pressing element and the block front pressing element.

20. (Previously Presented) A three-side trimmer comprising:

a common support frame;

5 first and second cutting stations each with a cutting unit, each said cutting unit including
a cutting strip and a knife for an oblique swing cut against a respective said cutting strip, said
each cutting unit including a unit frame connecting said respective cutting strip to a respective
said knife, each said unit frame substantially absorbing all forces between said knife and said
cutting strip during the oblique swing cut, said each cutting unit being movably mounted as a
unit on said common support frame;

10 a block head pressing element on said common support frame, said block head pressing
element being a closed compact unit with a block head pressing drive;

a block foot pressing element on said common support frame, said block foot pressing
element being a closed compact unit with a block foot pressing drive separate from said block
head pressing drive;

15 a block front pressing element on said common support frame, said block front pressing
element being a closed compact unit with a block front pressing drive separate from said block
head pressing drive and separate from said block foot pressing drive; and

a conveyor of material being cut being common to the block head pressing element and
the block foot pressing element and the block front pressing element.